



September 15, 2016

Ms. Debra Dorsey
AES Project Officer
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, KS 66219

RE: Property Owner Data Packages
Cherokee County Site – OU8 Railroads, Cherokee County, KS
U.S. EPA Region 7 AES Contract EP-S7-05-05;
Task Order 0061
EPA Task Order Project Officer: Elizabeth Hagenmaier

Dear Ms. Dorsey:

HydroGeoLogic, Inc. (HGL) is pleased to submit one electronic copy of the Property Owner Data Packages for the Cherokee County Site – OU8 Railroads, Cherokee County, Kansas. Each property owner was provided with a letter summarizing findings on their property/properties, a table with the XRF screening results, laboratory analytical results and a map showing locations samples. These documents were prepared in accordance with Task Order 0061 and our EPA-approved task order proposal dated January 23, 2013.

Should you have any questions or comments, please contact us at 913-317-8860.

Sincerely,

Andrea Fletcher
HGL Task Order Manager

W. Alan Rittgers, P.G.
AES Program Manager

Enclosures



September 9, 2016

[REDACTED]

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Section 25, T 34S, R 23E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear [REDACTED]:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from three test pits excavated on your property (Sample Location 1, Test Pits 1A, 1B, and 1C). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in December 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from all three test pits at depths up to 30 inches below ground surface (bgs). Zinc also exceeded the proposed cleanup levels in all three samples submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

Sincerely,

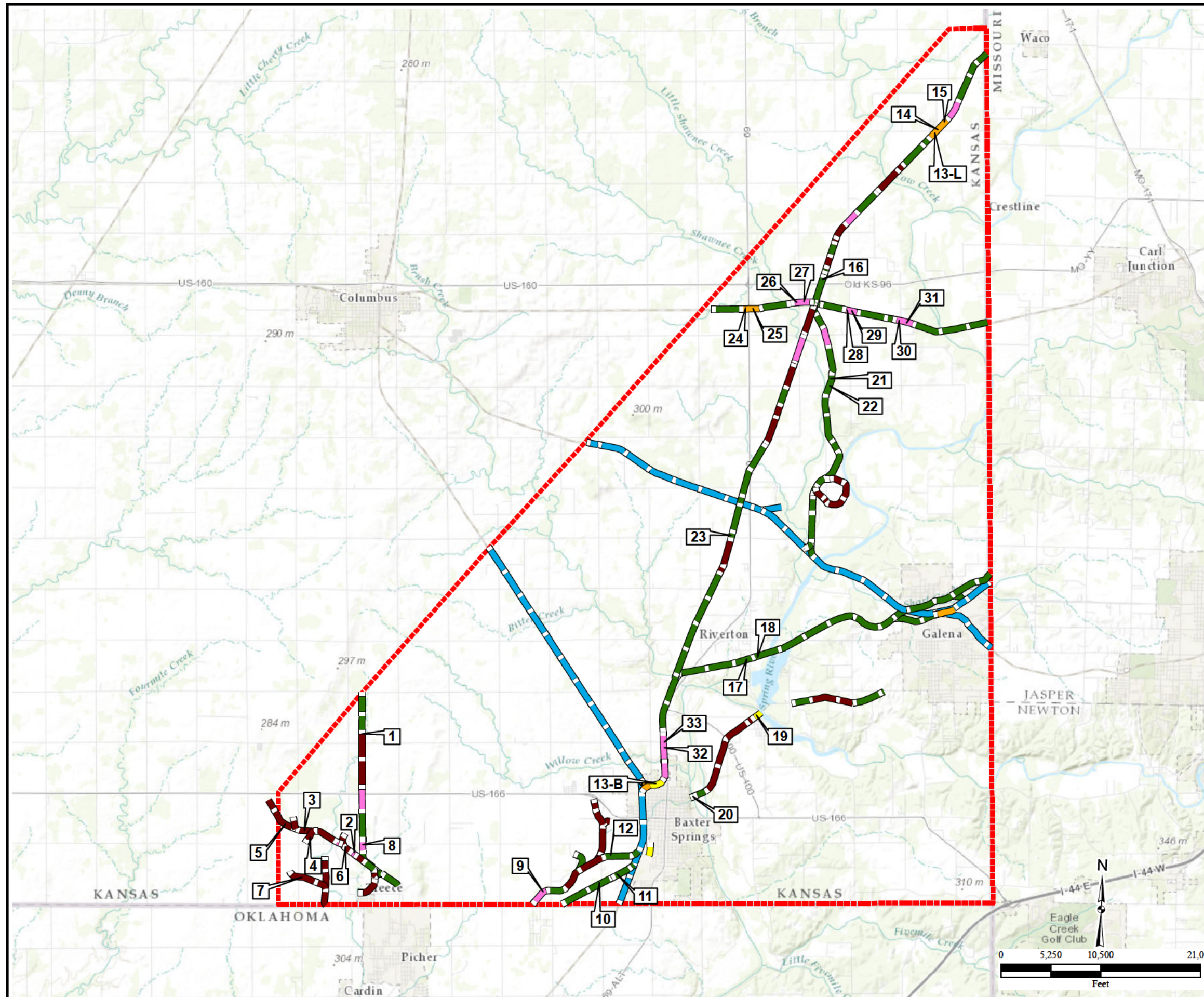


Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential


Notes:

Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSI\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1
XRF Screening Results
Cherokee County OU8 Railroads Site

Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
1A	6105-36	12/2/2013	0-6 inches	Lead	577
				Zinc	7,750
			6-12 inches	Lead	637
				Zinc	9,477
			12-18 inches	Lead	535
				Zinc	22,067
			18-24 inches	Lead	187
				Zinc	14,733
			24-30 inches	Lead	134
				Zinc	1,700
			30-36 inches	Lead	14
				Zinc	2,093
			36-42 inches	Lead	27
				Zinc	346
			42-48 inches	Lead	35
				Zinc	182
1B	6105-37	12/2/2013	0-6 inches	Lead	327
				Zinc	7,453
			6-12 inches	Lead	681
				Zinc	8,138
			12-18 inches	Lead	532
				Zinc	10,057
			18-24 inches	Lead	403
				Zinc	9,936
			24-30 inches	Lead	102
				Zinc	6,426
			30-36 inches	Lead	<11.1
				Zinc	565
			36-42 inches	Lead	<9.2
				Zinc	133
			42-48 inches	Lead	19
				Zinc	316
1C	6105-38	12/2/2013	0-6 inches	Lead	108
				Zinc	3,583
			6-12 inches	Lead	373
				Zinc	12,300
			12-18 inches	Lead	203
				Zinc	16,600
			18-24 inches	Lead	126
				Zinc	19,433
			24-30 inches	Lead	242
				Zinc	13,111
			30-36 inches	Lead	<11.8
				Zinc	511
			36-42 inches	Lead	19
				Zinc	315
			42-48 inches	Lead	14
				Zinc	1,773

 Result is above the proposed cleanup level which is subject to change until the Record of Decision is final.

bgs below ground surface

Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-36
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-36. This sample was collected on 12/02/2013 at the location described as: CCR-SS-1A (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-36 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	42.6	Milligrams per Kilogram
Lead	490	Milligrams per Kilogram
Zinc	9870	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-37
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-37. This sample was collected on 12/02/2013 at the location described as: CCR-SS-1B (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-37 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	43.4	Milligrams per Kilogram
Lead	266	Milligrams per Kilogram
Zinc	9920	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-38
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-38. This sample was collected on 12/02/2013 at the location described as: CCR-SS-1C (24-30). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-38 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	52.8	Milligrams per Kilogram
Lead	475	Milligrams per Kilogram
Zinc	13300	Milligrams per Kilogram



September 9, 2016



RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Section 11, T 35S, R 23E, Parcel [REDACTED]) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear [REDACTED]:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from two test pits excavated on your property (Sample Location 6, Test Pits 6A and 6B). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in December 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from both test pits at depths up to 24 inches below ground surface (bgs). Zinc also exceeded the proposed cleanup levels in sample 6105-40 from Test Pit 6A submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

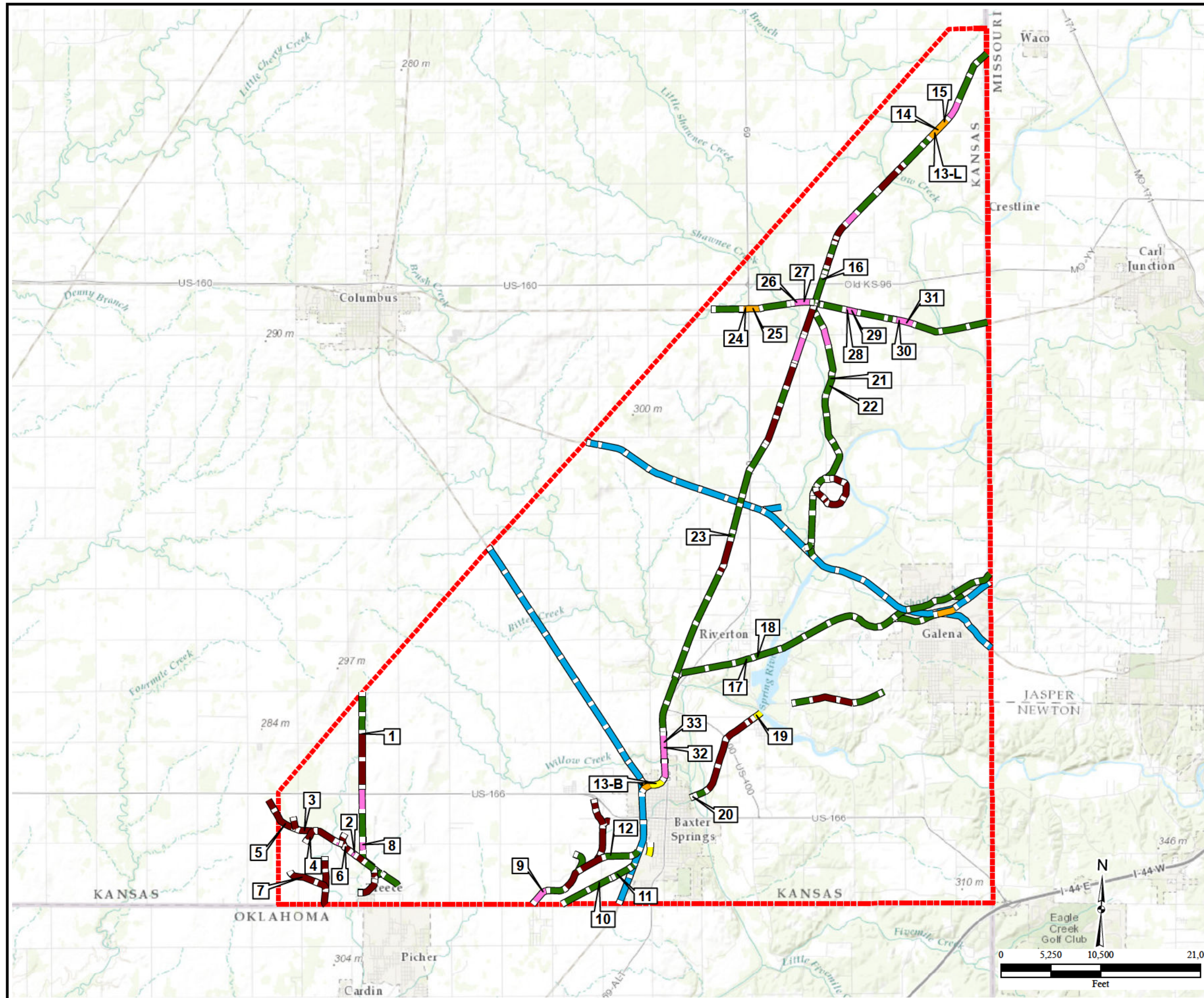
Sincerely,

Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural


Suspected Class 2, Residential

Notes:

Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSI\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
6A	6105-40	12/2/2013	0-6 inches	Lead	134
				Zinc	1,573
			6-12 inches	Lead	495
				Zinc	5,821
			12-18 inches	Lead	453
				Zinc	6,504
			18-24 inches	Lead	39
				Zinc	592
			24-30 inches	Lead	19
				Zinc	295
			30-36 inches	Lead	74
				Zinc	1,236
6B	6105-41	12/2/2013	0-6 inches	Lead	112
				Zinc	1,241
			6-12 inches	Lead	632
				Zinc	11,168
			12-18 inches	Lead	409
				Zinc	9,805
			18-24 inches	Lead	657
				Zinc	8,898
			24-30 inches	Lead	13
				Zinc	463
			30-36 inches	Lead	59
				Zinc	1,249
			36-42 inches	Lead	21
				Zinc	181
			42-48 inches	Lead	12
				Zinc	90

 Result is above the proposed cleanup level which is subject to change until the Record of Decision is final.

bgs below ground surface

Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219

01/09/2014

Results of Sample Analysis

Sample: 6105-40
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-40. This sample was collected on 12/02/2013 at the location described as: CCR-SS-6A (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-40 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	24.3	Milligrams per Kilogram
Lead	322	Milligrams per Kilogram
Zinc	6080	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-41
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-41. This sample was collected on 12/02/2013 at the location described as: CCR-SS-6B (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-41 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	17.0	Milligrams per Kilogram
Lead	76.6	Milligrams per Kilogram
Zinc	2430	Milligrams per Kilogram



September 9, 2016

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Section 11, T 35S, R 23E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear Mr. [REDACTED]:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from two test pits excavated on your property (Sample Location 7, Test Pits 7A and 7B). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in May 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from both test pits at depths up to 48 inches below ground surface (bgs). Zinc also exceeded the proposed cleanup levels in sample 6105-16 (and associated field duplicate) from Test Pit 7A and sample 6105-15 from Test Pit 7B submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

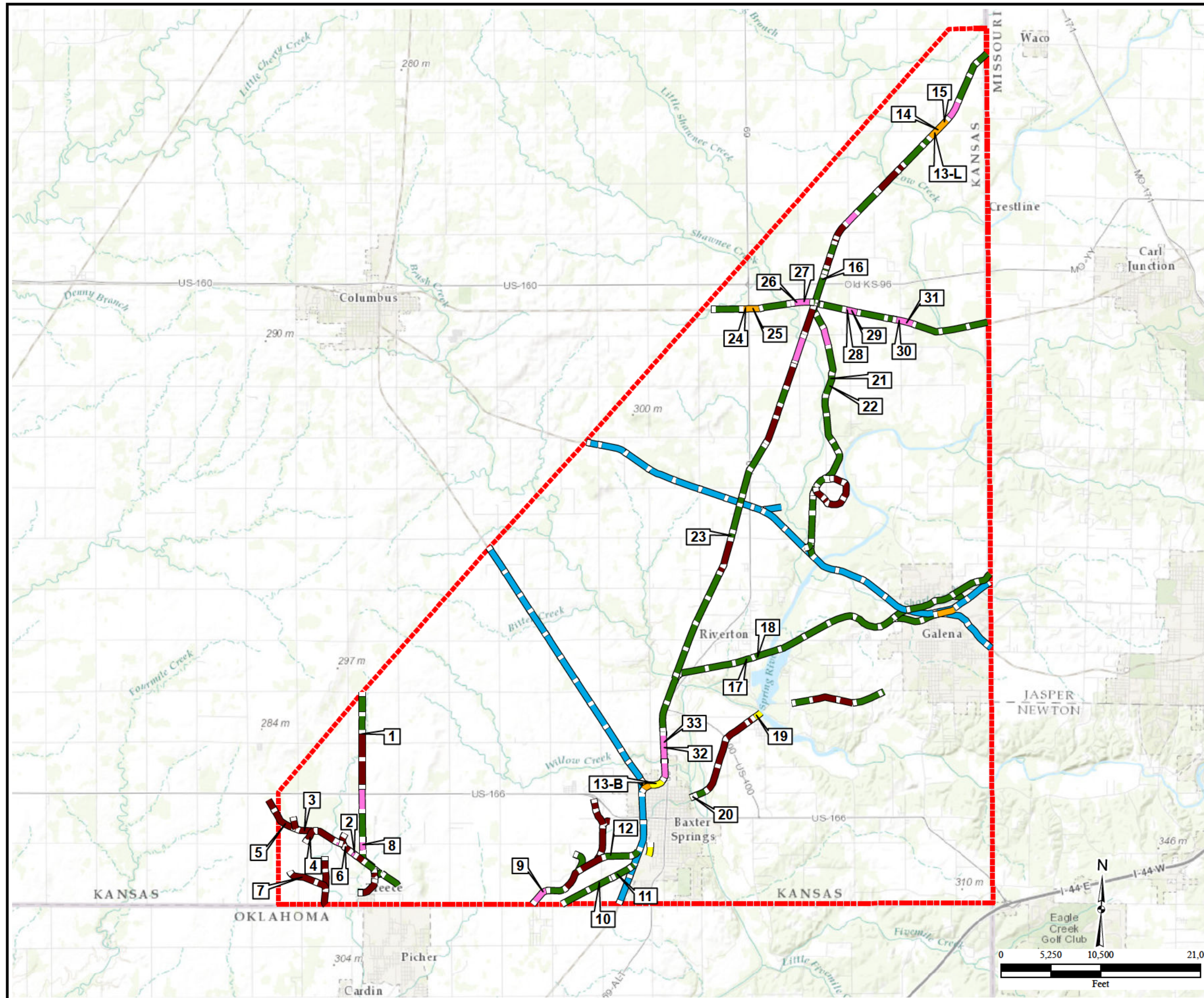
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cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural


Suspected Class 2, Residential

Notes:

Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
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Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee County\MSI\RR\ (3-01)RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
7A	6105-16 6105-16-FD	5/9/2013	0-6 inches	Lead	367
				Zinc	12,300
			6-12 inches	Lead	366
				Zinc	11,583
			12-18 inches	Lead	365
				Zinc	5,207
			18-24 inches	Lead	238
				Zinc	6,646
			24-30 inches	Lead	325
				Zinc	4,547
			30-36 inches	Lead	320
				Zinc	4,581
7B	6105-15	5/9/2013	0-6 inches	Lead	178
				Zinc	2,492
			42-48 inches	Lead	43
				Zinc	454
			0-6 inches	Lead	310
				Zinc	7,055
			6-12 inches	Lead	235
				Zinc	7,585
			12-18 inches	Lead	547
				Zinc	13,375
			18-24 inches	Lead	258
				Zinc	6,004
			24-30 inches	Lead	317
				Zinc	7,837
			30-36 inches	Lead	252
				Zinc	8,838
			36-42 inches	Lead	252
				Zinc	5,948
			42-48 inches	Lead	445
				Zinc	7,720

 Result is above the proposed cleanup level which is subject to change until the
 bgs below ground surface

Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-15
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-15. This sample was collected on 05/09/2013 at the location described as: CCR-SS-7B (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-15 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	40.3	Milligrams per Kilogram
Lead	270	Milligrams per Kilogram
Zinc	9610	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-16
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-16. This sample was collected on 05/09/2013 at the location described as: CCR-SS-7A (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-16 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	35.3	Milligrams per Kilogram
Lead	510	Milligrams per Kilogram
Zinc	7520	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-16-FD
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-16-FD. This sample was collected on 05/09/2013 at the location described as: CCR-SS-7A (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-16-FD for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	30.1	Milligrams per Kilogram
Lead	361	Milligrams per Kilogram
Zinc	6430	Milligrams per Kilogram

September 9, 2016

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Section 12, T 35S, R 23E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear Mr. [REDACTED]:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from four test pits excavated on your property (Sample Location 8, Test Pits 8A, 8A-E, 8A-W and 8B). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in May 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from Test Pits 8A and 8B at depths up to 48 inches below ground surface (bgs). Zinc also exceeded the proposed cleanup levels in sample 6105-8 from Test Pit 8A and sample 6105-7 from Test Pit 8B submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

Sincerely,

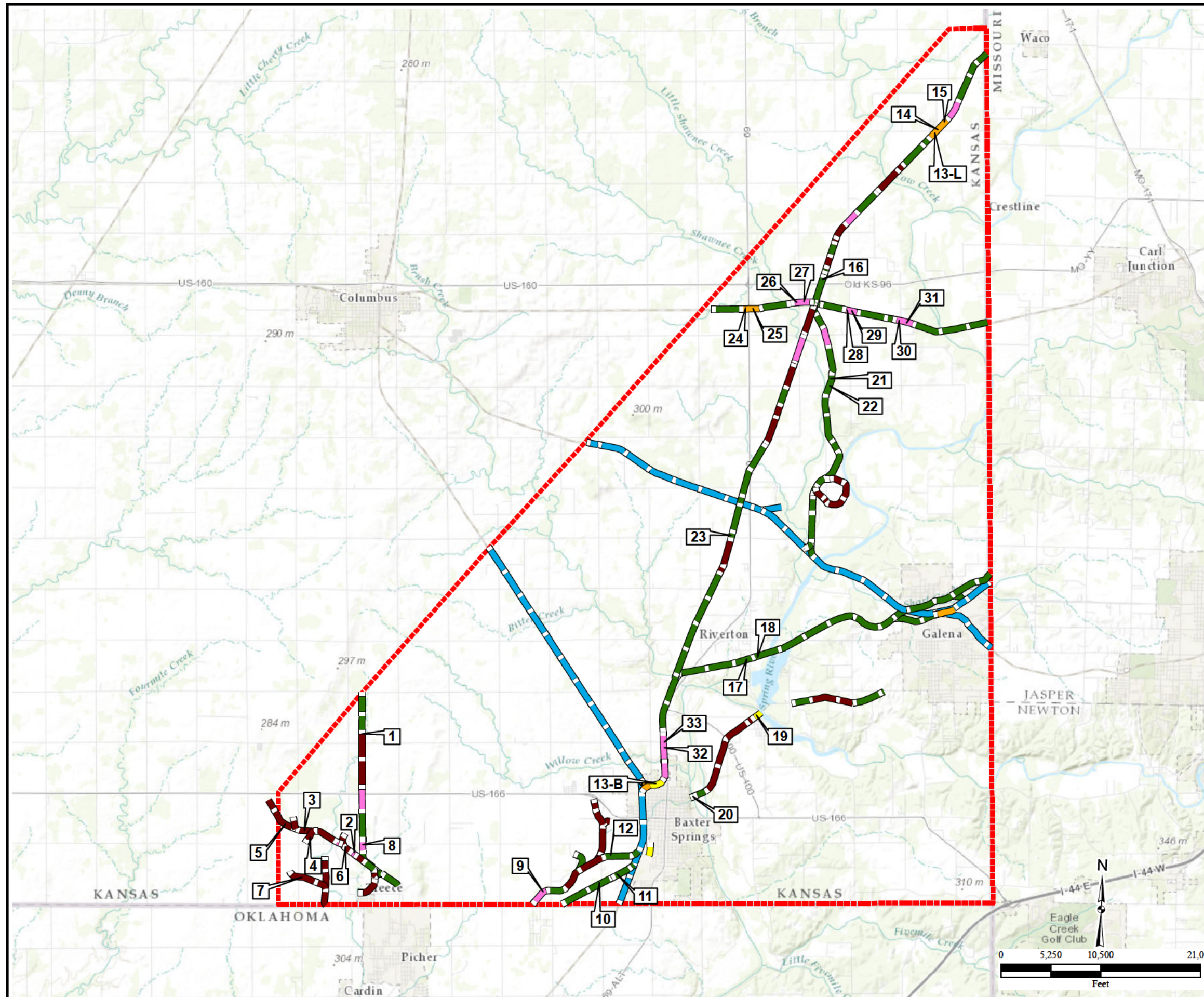


Andrea Fletcher
HGL Task Order Manager

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cc: E. Hagenmaier, EPA Region 7

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Sample Locations



Legend

10 Sample Location

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Notes:

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8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
8A	6105-8	5/8/2013	0-6 inches	Lead	322
				Zinc	8,220
			6-12 inches	Lead	302
				Zinc	16,833
			12-18 inches	Lead	236
				Zinc	14,900
			18-24 inches	Lead	187
				Zinc	10,202
			24-30 inches	Lead	61
				Zinc	6,204
			30-36 inches	Lead	17
				Zinc	1,297
8A-E		5/8/2013	0-6 inches	Lead	<10.3
				Zinc	117
			6-12 inches	Lead	67
				Zinc	5,347
8A-W		5/8/2013	0-6 inches	Lead	39
				Zinc	356
			6-12 inches	Lead	51
				Zinc	420
8B	6105-7	5/8/2013	0-6 inches	Lead	60
				Zinc	655
			6-12 inches	Lead	<9.1
				Zinc	132
			0-6 inches	Lead	269
				Zinc	4,313
			6-12 inches	Lead	330
				Zinc	20,967
			12-18 inches	Lead	294
				Zinc	9,958
			18-24 inches	Lead	193
				Zinc	18,767
			24-30 inches	Lead	14
				Zinc	466
			30-36 inches	Lead	19
				Zinc	2,010
			36-42 inches	Lead	28
				Zinc	1,081
			42-48 inches	Lead	18
				Zinc	577

 Result is above the proposed cleanup level which is subject to change until the
 bgs below ground surface
 Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-7
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-7. This sample was collected on 05/08/2013 at the location described as: CCR-SS-8B (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-7 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	79.3	Milligrams per Kilogram
Lead	906	Milligrams per Kilogram
Zinc	16800	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-8
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-8. This sample was collected on 05/08/2013 at the location described as: CCR-SS-8A (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-8 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	67.2	Milligrams per Kilogram
Lead	266	Milligrams per Kilogram
Zinc	15200	Milligrams per Kilogram



September 9, 2016



RE: Analytical results for soil samples collected from former rail line on [REDACTED] Environmental Property ([REDACTED]) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

To Whom It May Concern:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from five test pits excavated on your property (Sample Location 9, Test Pits 9A, 9B, 9B-W, 9B-E, and 9C). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in May 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from Test Pits 9A, 9B, and 9C at depths up to 36 inches below ground surface (bgs). Lead was also detected at concentrations exceeding its proposed cleanup level of 1,770 milligrams per kilogram (mg/kg) in a sample collected from Test Pits 9B at to the 0 - 6 inch below ground surface (bgs) interval. Zinc also exceeded the proposed cleanup levels in sample 6105-3 from Test Pit 9A and sample 6105-1 from Test Pit 9C submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

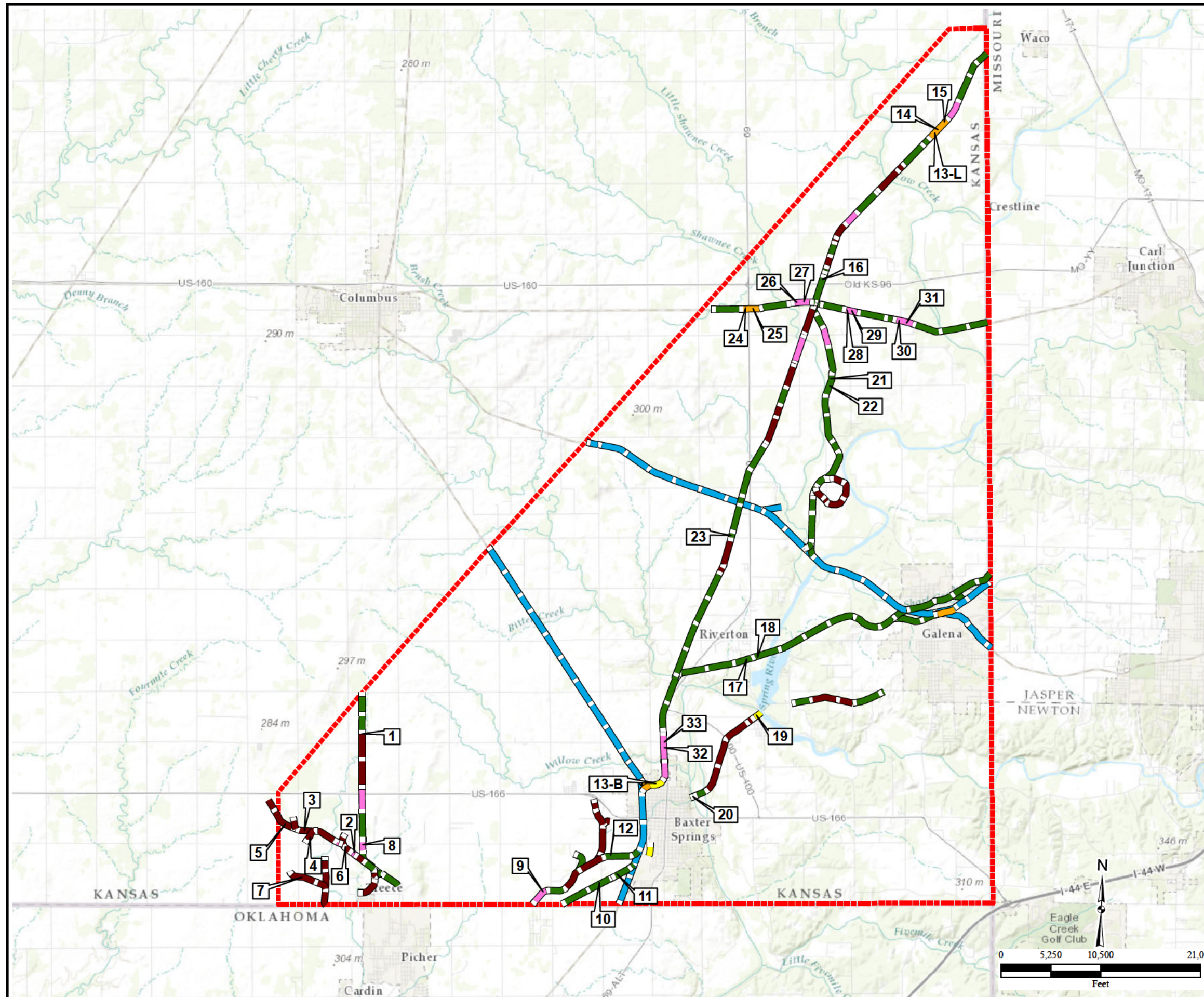
Sincerely,

Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential

Notes:

Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)

Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively

Confirmed=Visually inspected

Rural=land is agricultural or wooded with little or no exposure potential


Residential=land is in residential areas

Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSI\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
9A	6105-3	5/8/2013	0-6 inches	Lead	364
				Zinc	8,751
			6-12 inches	Lead	212
				Zinc	15,018
			12-18 inches	Lead	125
				Zinc	7,536
			18-24 inches	Lead	44
				Zinc	2,292
			24-30 inches	Lead	31
				Zinc	376
			30-36 inches	Lead	44
				Zinc	623
9B	6105-2	5/8/2013	0-6 inches	Lead	2,271
				Zinc	5,884
			6-12 inches	Lead	676
				Zinc	11,762
			12-18 inches	Lead	305
				Zinc	13,709
			18-24 inches	Lead	149
				Zinc	6,984
			24-30 inches	Lead	368
				Zinc	8,760
			30-36 inches	Lead	192
				Zinc	6,267
9B-W		5/8/2013	0-6 inches	Lead	58
				Zinc	1,104
			6-12 inches	Lead	100
				Zinc	36
9B-E		5/8/2013	12-18 inches	Lead	93
				Zinc	272
					753

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
9C	6105-1	5/8/2013	0-6 inches	Lead	483
				Zinc	16,433
			6-12 inches	Lead	374
				Zinc	13,833
			12-18 inches	Lead	363
				Zinc	20,297
			18-24 inches	Lead	195
				Zinc	6,787
			24-30 inches	Lead	252
				Zinc	8,356
			30-36 inches	Lead	150
				Zinc	5,466
			36-42 inches	Lead	45
				Zinc	1,674
			42-48 inches	Lead	24
				Zinc	220

 Result is above the proposed cleanup level which is subject to change until the
 bgs below ground surface
 Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-1
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-1. This sample was collected on 05/08/2013 at the location described as: CCR-SS-9C (24-30). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-1 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	37.0	Milligrams per Kilogram
Lead	225	Milligrams per Kilogram
Zinc	8910	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-2
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-2. This sample was collected on 05/08/2013 at the location described as: CCR-SS-9B (42-48). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-2 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	Approximately 0.63	Milligrams per Kilogram
Lead	24.6	Milligrams per Kilogram
Zinc	Approximately 97.1	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-3
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-3. This sample was collected on 05/08/2013 at the location described as: CCR-SO-9A (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-3 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	48.2	Milligrams per Kilogram
Lead	369	Milligrams per Kilogram
Zinc	11900	Milligrams per Kilogram



September 9, 2016

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Section 21, T 33S, R 25E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear [REDACTED]:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from three test pits excavated on your property (Sample Location 21, Test Pits 21A, 21B, and 21C). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in June 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from all three test pits at depths up to 24 inches below ground surface (bgs). Lead was also detected at a concentration exceeding its proposed cleanup level of 1,770 milligrams per kilogram (mg/kg) in a sample collected from Test Pit 21A at the the 6 to 12 inches below ground surface (bgs) interval. Zinc also exceeded the proposed cleanup levels in sample 6105-33 from Test Pit 21A submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

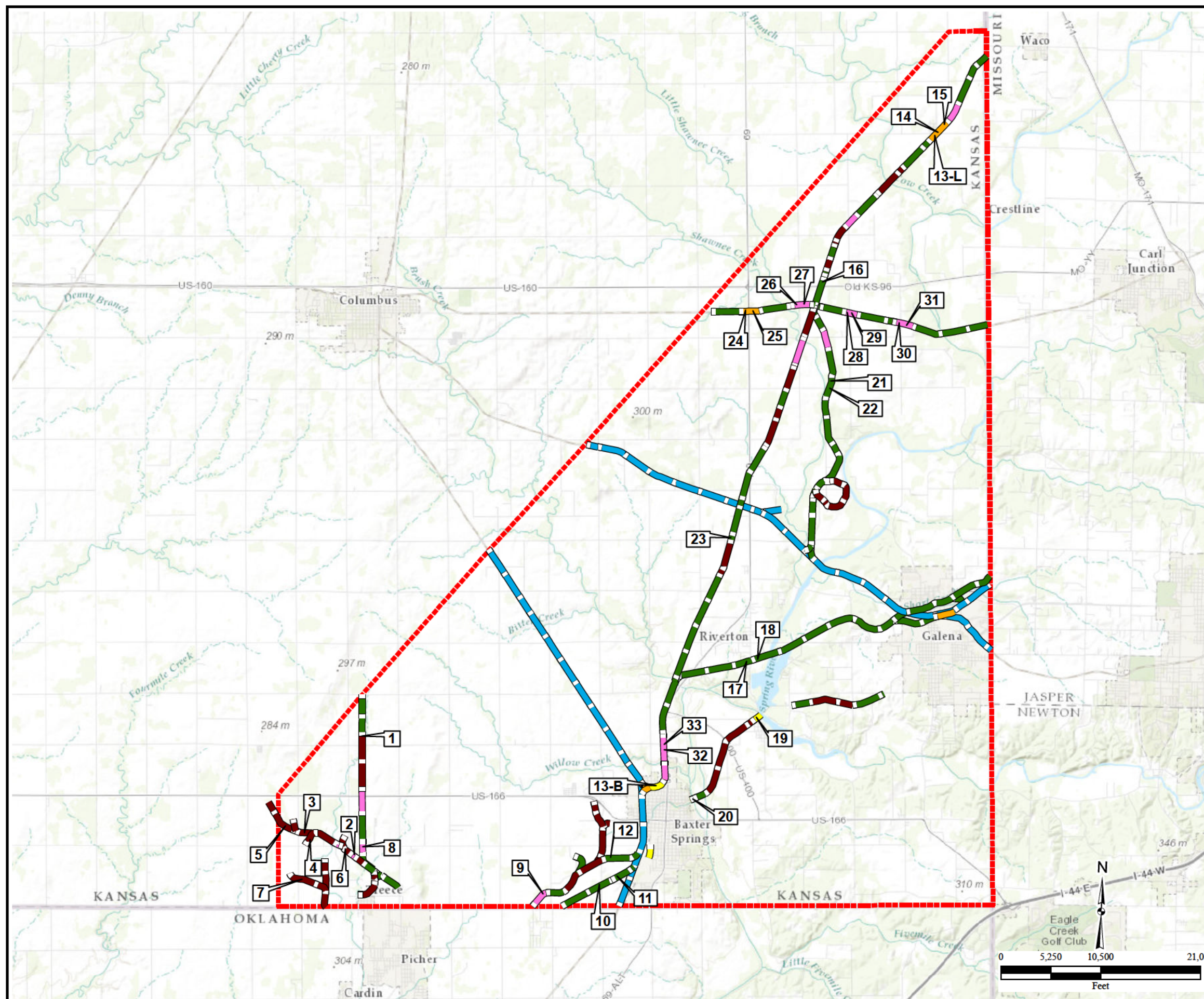
Sincerely,

Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential

Notes:
Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSIW\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

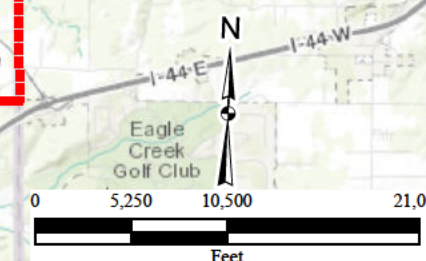



Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
21A	6105-33	6/12/2013	0-6 inches	Lead	461
				Zinc	2,690
			6-12 inches	Lead	1,785
				Zinc	5,078
			12-18 inches	Lead	889
				Zinc	9,934
			18-24 inches	Lead	471
				Zinc	9,678
			24-30 inches	Lead	262
				Zinc	3,367
			30-36 inches	Lead	190
				Zinc	1,210
21B	6105-31	6/12/2013	0-6 inches	Lead	16
				Zinc	86
			42-48 inches	Lead	27
				Zinc	104
			0-6 inches	Lead	534
				Zinc	5,298
			6-12 inches	Lead	930
				Zinc	5,687
			12-18 inches	Lead	600
				Zinc	7,905
			18-24 inches	Lead	501
				Zinc	11,069
21C	6105-30 6105-30-FD	6/12/2013	0-6 inches	Lead	76
				Zinc	852
			6-12 inches	Lead	86
				Zinc	439
			12-18 inches	Lead	43
				Zinc	282
			18-24 inches	Lead	46
				Zinc	181
			24-30 inches	Lead	829
				Zinc	4,368
			6-12 inches	Lead	1,151
				Zinc	3,367
21C	6105-30 6105-30-FD	6/12/2013	12-18 inches	Lead	1,031
				Zinc	3,248
			18-24 inches	Lead	390
				Zinc	7,836
			24-30 inches	Lead	212
				Zinc	686
			30-36 inches	Lead	583
				Zinc	3,510
			36-42 inches	Lead	16
				Zinc	41
			42-48 inches	Lead	18
				Zinc	59

 Result is above the proposed cleanup level which is subject to change until the
 bgs below ground surface
 Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219

01/09/2014

Results of Sample Analysis

Sample: 6105-30
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-30. This sample was collected on 06/12/2013 at the location described as: CCR-SS-21C (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-30 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	12.9	Milligrams per Kilogram
Lead	916	Milligrams per Kilogram
Zinc	3470	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-30-FD
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-30-FD. This sample was collected on 06/12/2013 at the location described as: CCR-SS-21C (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-30-FD for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	13.7	Milligrams per Kilogram
Lead	981	Milligrams per Kilogram
Zinc	3770	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-31
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-31. This sample was collected on 06/12/2013 at the location described as: CCR-SS-21B (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-31 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	11.5	Milligrams per Kilogram
Lead	468	Milligrams per Kilogram
Zinc	2260	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-33
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-33. This sample was collected on 06/12/2013 at the location described as: CCR-SS-21A (24-30). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-33 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	24.5	Milligrams per Kilogram
Lead	364	Milligrams per Kilogram
Zinc	4830	Milligrams per Kilogram

September 9, 2016

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Section 28, T 33S, R 25E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear Mr. [REDACTED]

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from one test pit excavated on your property (Sample Location 22, Test Pits 22A). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in June 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from Test Pit 22A at a depth up to 18 inches below ground surface (bgs). There were no exceedances of the proposed cleanup levels in samples submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

Sincerely,

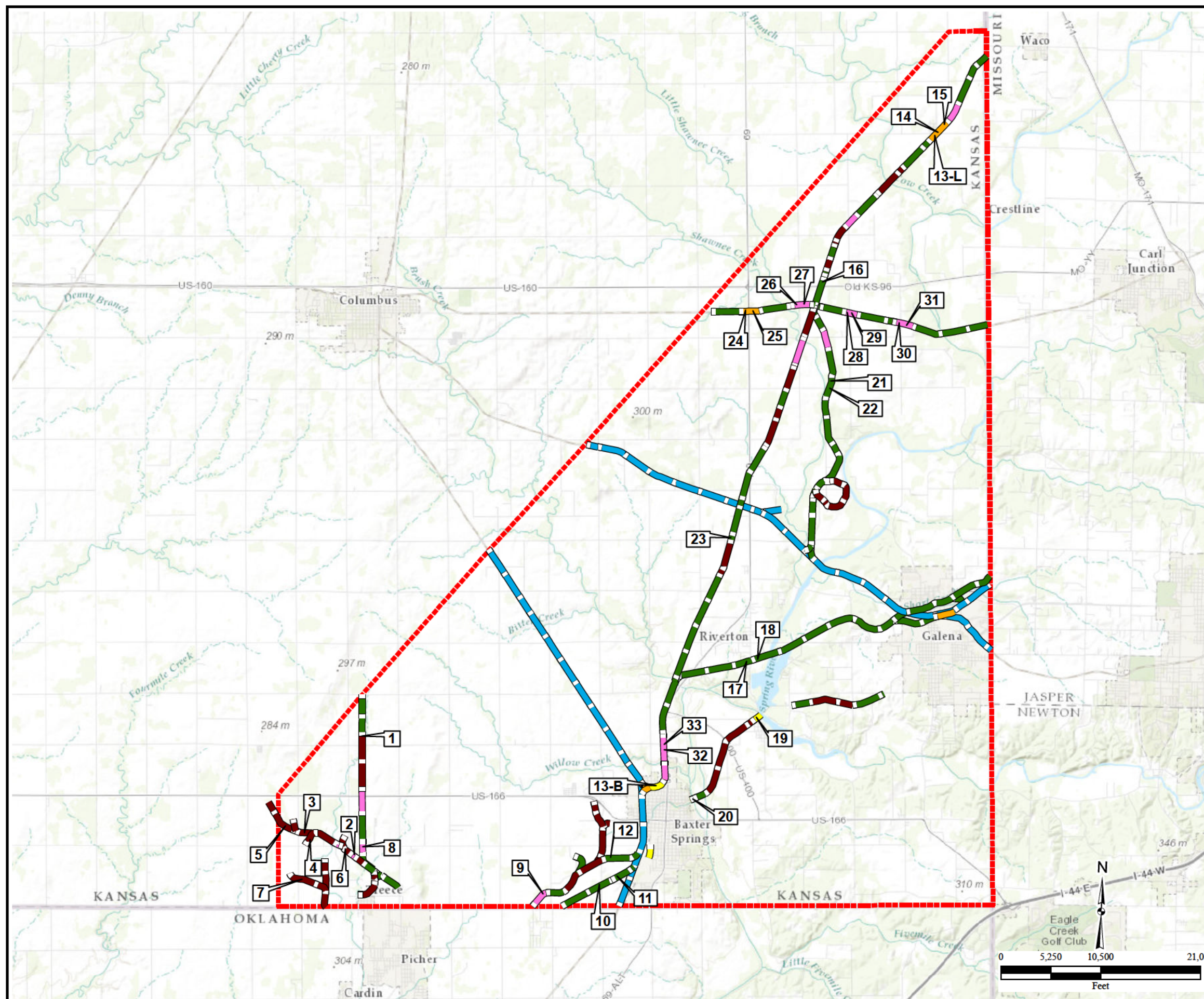


Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential

Notes:
Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSI\RR\ (3-01)RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

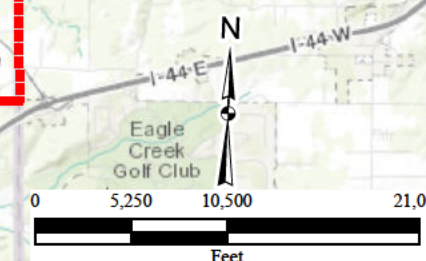



Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
22A	6105-32 6105-35	6/12/2013	0-6 inches	Lead	716
				Zinc	4,007
			6-12 inches	Lead	707
				Zinc	3,666
			12-18 inches	Lead	655
				Zinc	6,454
			18-24 inches	Lead	608
				Zinc	2,131
			24-30 inches	Lead	173
				Zinc	1,095
			30-36 inches	Lead	21
				Zinc	53
			36-42 inches	Lead	25
				Zinc	147
			42-48 inches	Lead	26
				Zinc	33

 Result is above the proposed cleanup level which is subject to change until the
 bgs below ground surface

Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-32
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-32. This sample was collected on 06/12/2013 at the location described as: CCR-SS-22A (30-36). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-32 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	Less Than 0.43	Milligrams per Kilogram
Lead	7.3	Milligrams per Kilogram
Zinc	13.9	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-35
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-35. This sample was collected on 06/12/2013 at the location described as: CCR-SS-22A (36-42). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-35 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	Less Than 0.53	Milligrams per Kilogram
Lead	22.7	Milligrams per Kilogram
Zinc	67.5	Milligrams per Kilogram

September 9, 2016

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Section 6, T 34S, R 25E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear Mr. [REDACTED]:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from two test pits excavated on your property (Sample Location 23, Test Pits 23A and 23B). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in June 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from both test pits at depths up to 24 inches below ground surface (bgs). Zinc also exceeded the proposed cleanup levels in sample 6105-34 from Test Pit 23B submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

Sincerely,

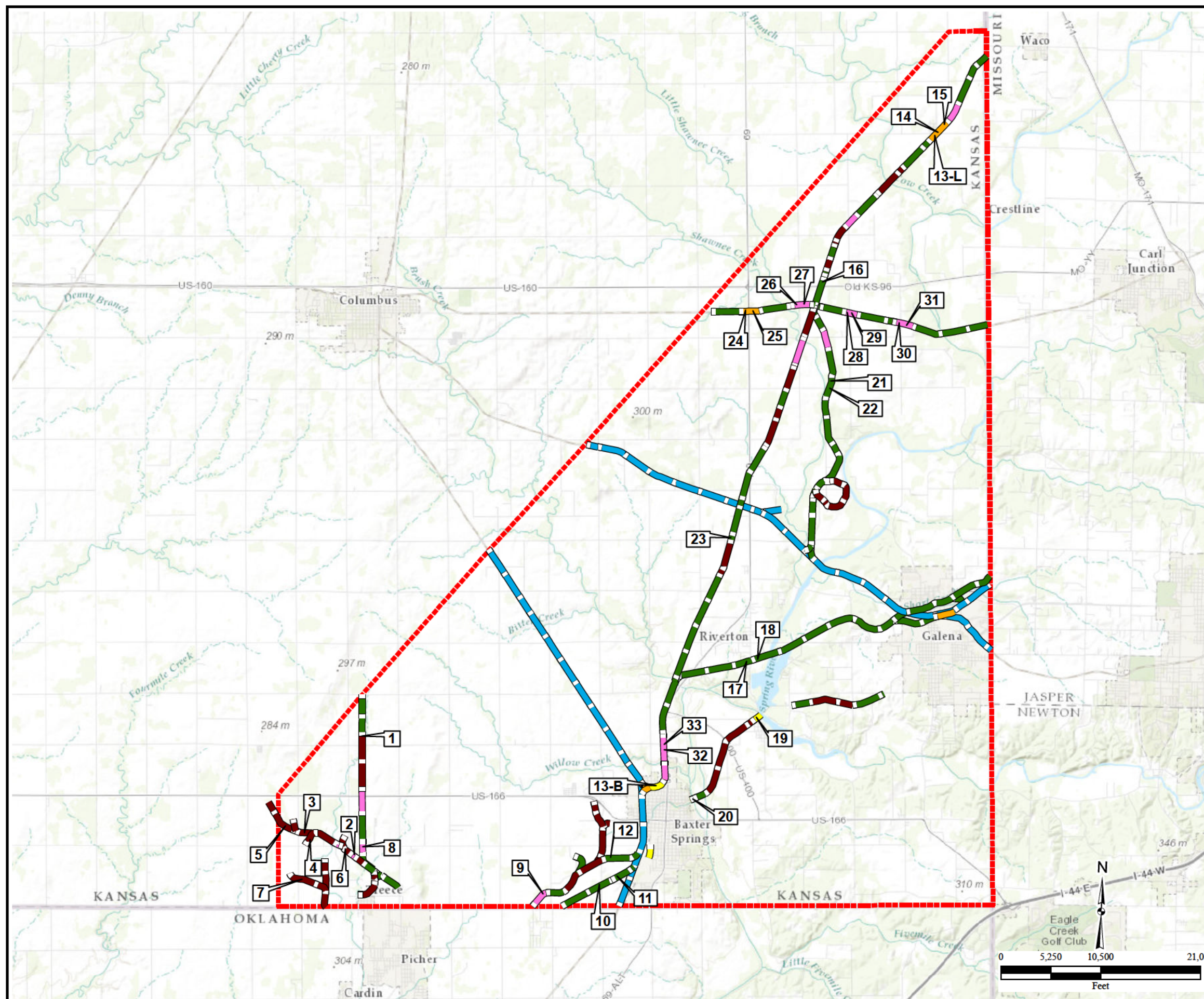


Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

- Active Line
- Confirmed Class 1, Residential
- Confirmed Class 1, Rural
- Suspected Class 1, Rural
- Suspected Class 2, Rural
- Suspected Class 2, Residential

Notes:
Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSIW\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

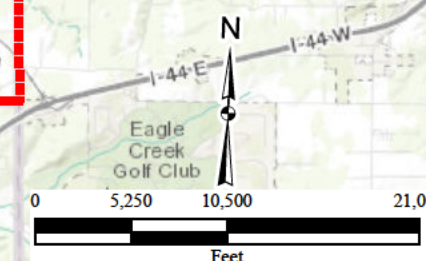



Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
23A		6/12/2013	0-6 inches	Lead	309
				Zinc	8,039
			6-12 inches	Lead	261
				Zinc	6,797
			12-18 inches	Lead	76
				Zinc	2,669
			18-24 inches	Lead	84
				Zinc	2,550
			24-30 inches	Lead	21
				Zinc	368
			30-36 inches	Lead	<11.4
				Zinc	130
23B	6105-34	6/12/2013	0-6 inches	Lead	317
				Zinc	6,314
			6-12 inches	Lead	177
				Zinc	7,310
			12-18 inches	Lead	295
				Zinc	13,392
			18-24 inches	Lead	136
				Zinc	4,471
			24-30 inches	Lead	<11.7
				Zinc	191
			30-36 inches	Lead	<11.7
				Zinc	86
			36-42 inches	Lead	95
				Zinc	397
			42-48 inches	Lead	<13.0
				Zinc	53

 Result is above the proposed cleanup level which is subject to change until the Record of Decision is final.

bgs below ground surface

Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-34
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-34. This sample was collected on 06/12/2013 at the location described as: CCR-SS-23B (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-34 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	43.9	Milligrams per Kilogram
Lead	123	Milligrams per Kilogram
Zinc	7680	Milligrams per Kilogram



September 9, 2016



RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Section 17, T 33S, R23E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear [REDACTED]:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from three test pits excavated on your property (Sample Location 26, Test Pits 26A, 26B, and 26B-S). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in December 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from Test Pits 26A and 26B at depths up to 36 inches below ground surface (bgs). Lead was also detected at concentrations exceeding its proposed cleanup level of 1,770 milligrams per kilogram (mg/kg) in samples collected from Test Pit 26A at depths up to 36 inches below ground surface (bgs). Zinc also exceeded the proposed cleanup levels in sample 6105-47 from Test Pit 26A and sample 6105-46 from Test Pit 26B submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

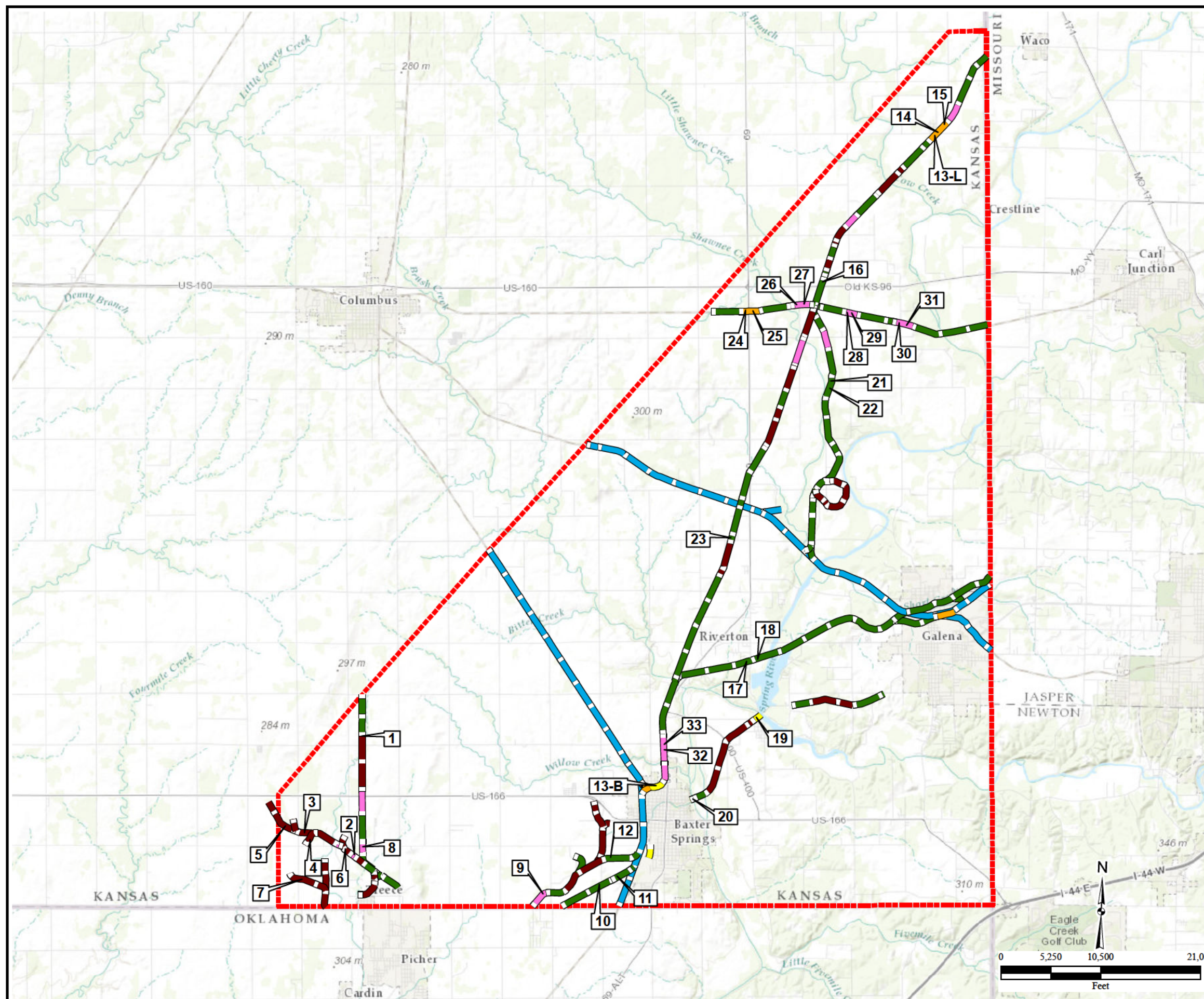
Sincerely,

Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

- Active Line
- Confirmed Class 1, Residential
- Confirmed Class 1, Rural
- Suspected Class 1, Rural
- Suspected Class 2, Rural
- Suspected Class 2, Residential

Notes:
Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSI\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

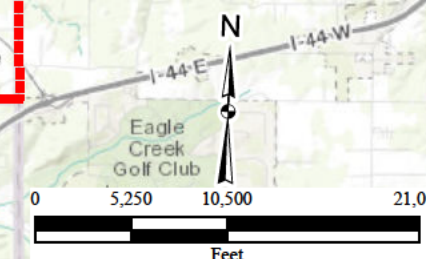



Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
26A	6105-47	12/3/2013	0-6 inches	Lead	701
				Zinc	6,876
			6-12 inches	Lead	424
				Zinc	13,891
			12-18 inches	Lead	364
				Zinc	5,315
			18-24 inches	Lead	333
				Zinc	3,703
			24-30 inches	Lead	7,855
				Zinc	7,010
			30-36 inches	Lead	7,739
				Zinc	6,993
26B	6105-46	12/3/2013	0-6 inches	Lead	192
				Zinc	393
			6-12 inches	Lead	42
				Zinc	184
			12-18 inches	Lead	313
				Zinc	6,238
			18-24 inches	Lead	327
				Zinc	12,599
			24-30 inches	Lead	238
				Zinc	10,995
			30-36 inches	Lead	448
				Zinc	8,851
26B-S		12/3/2013	0-6 inches	Lead	708
				Zinc	1,868
				Lead	185
				Zinc	1,217
				Lead	110
				Zinc	744
				Lead	<10.4
				Zinc	47
				Lead	85
				Zinc	480

 Result is above the proposed cleanup level which is subject to change until the Record of Decision is final.
 bgs below ground surface
 Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-46
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-46. This sample was collected on 12/03/2013 at the location described as: CCR-SS-26B (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-46 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	33.4	Milligrams per Kilogram
Lead	472	Milligrams per Kilogram
Zinc	8450	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-47
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-47. This sample was collected on 12/03/2013 at the location described as: CCR-SS-26A (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-47 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	Approximately 37.2	Milligrams per Kilogram
Lead	884	Milligrams per Kilogram
Zinc	8100	Milligrams per Kilogram



September 9, 2016

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Sections 2 and 3, T 35S, R 23E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear [REDACTED]

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from nine test pits excavated on your property (Sample Locations 3, 4, and 5; Test Pits 3A, 3B, 3B-N, 3B-N2, 4A, 5A, 5B, 5B-N, and 5B-S). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in May 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from all nine test pits at depths up to 36 inches below ground surface (bgs). Lead was also detected at concentrations exceeding its proposed cleanup level of 1,770 milligrams per kilogram (mg/kg) in samples collected from Test Pits 3B-N, 3B-N2, and 5B-N at depths up to 18 inches below ground surface (bgs).

Zinc exceeded the proposed cleanup levels in sample 6105-11 from Test Pit 3A, sample 6105-12 (and associated field duplicate) from Test Pit 4A, sample 6105-10 from Test Pit 5A, and sample 6105-9 from Test Pit 5B-N submitted to the Region 7 EPA laboratory for analysis (Attachment A). Lead also exceeded the proposed cleanup levels in sample 6105-9 from Test Pit 5B-N submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

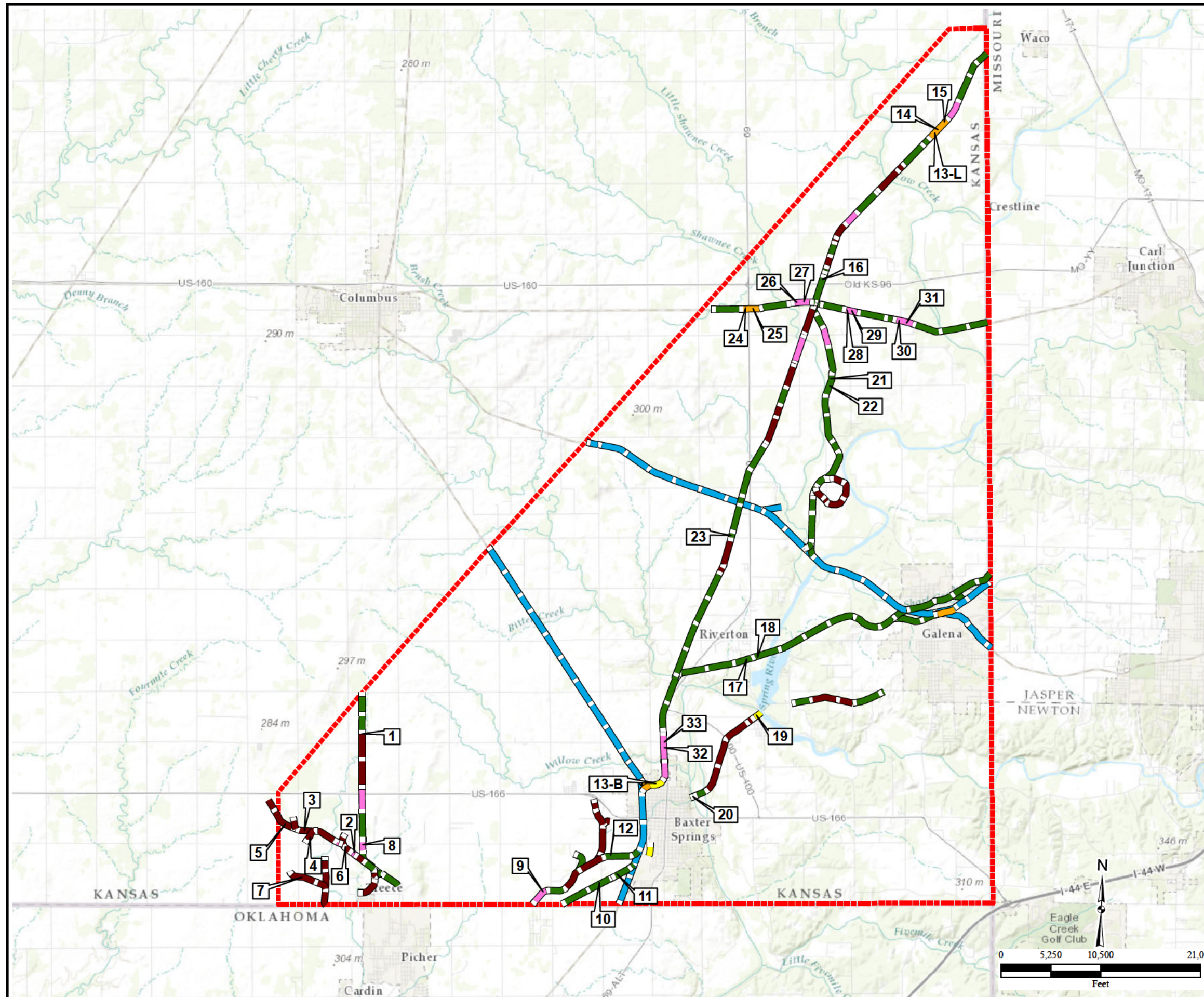
Sincerely,

Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential

Notes:

Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSI\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
3A	6105-11	5/9/2013	0-6 inches	Lead	665
				Zinc	3,084
			6-12 inches	Lead	292
				Zinc	4,646
			12-18 inches	Lead	343
				Zinc	4,295
			18-24 inches	Lead	89
				Zinc	2,518
			24-30 inches	Lead	29
				Zinc	661
			30-36 inches	Lead	21
				Zinc	1,133
3B	6105-14	5/9/2013	0-6 inches	Lead	32
				Zinc	280
			6-12 inches	Lead	59
				Zinc	216
			12-18 inches	Lead	1,724
				Zinc	9,616
			18-24 inches	Lead	656
				Zinc	7,684
			24-30 inches	Lead	27
				Zinc	231
			30-36 inches	Lead	19
				Zinc	2,321
3B-N		5/9/2013	0-6 inches	Lead	19
				Zinc	62
			6-12 inches	Lead	71
				Zinc	453
3B-N2		5/9/2013	0-6 inches	Lead	12
				Zinc	20
			6-12 inches	Lead	15
				Zinc	32
3B-N2		5/9/2013	0-6 inches	Lead	1,354
				Zinc	3,630
			6-12 inches	Lead	649
				Zinc	2,257
3B-N2		5/9/2013	12-18 inches	Lead	2,161
				Zinc	5,157
3B-N2		5/9/2013	0-6 inches	Lead	2,014
				Zinc	7,148

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
4A	6105-12 6105-12-FD	5/9/2013	0-6 inches	Lead	700
				Zinc	6,412
			6-12 inches	Lead	432
				Zinc	7,402
			12-18 inches	Lead	497
				Zinc	8,510
			18-24 inches	Lead	226
				Zinc	6,997
			24-30 inches	Lead	284
				Zinc	7,883
			30-36 inches	Lead	164
				Zinc	8,239
5A	6105-10	5/9/2013	0-6 inches	Lead	1,149
				Zinc	8,038
			6-12 inches	Lead	786
				Zinc	7,700
			12-18 inches	Lead	838
				Zinc	10,133
			18-24 inches	Lead	525
				Zinc	6,041
			24-30 inches	Lead	474
				Zinc	5,660
			30-36 inches	Lead	170
				Zinc	1,576
			36-42 inches	Lead	457
				Zinc	3,246
			42-48 inches	Lead	7
				Zinc	180
5B		5/9/2013	0-6 inches	Lead	1,360
				Zinc	4,891
			6-12 inches	Lead	1,044
				Zinc	7,875
			12-18 inches	Lead	800
				Zinc	14,214
			18-24 inches	Lead	568
				Zinc	18,433
			24-30 inches	Lead	981
				Zinc	9,054
			30-36 inches	Lead	871
				Zinc	6,070
5B-N	6105-9	5/9/2013	0-6 inches	Lead	409
				Zinc	5,107
			6-12 inches	Lead	2,009
				Zinc	4,748
			12-18 inches	Lead	311
				Zinc	3,210
5B-S		5/9/2013	0-6 inches	Lead	572
				Zinc	7,946

Result is above the proposed cleanup level which is subject to change until the Record of Decision is final.

bgs below ground surface

Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-9
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-9. This sample was collected on 05/09/2013 at the location described as: CCR-SS-5BN (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-9 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	24.1	Milligrams per Kilogram
Lead	3260	Milligrams per Kilogram
Zinc	7170	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-10
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-10. This sample was collected on 05/09/2013 at the location described as: CCR-SS-5A (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-10 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	113	Milligrams per Kilogram
Lead	837	Milligrams per Kilogram
Zinc	22000	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-11
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-11. This sample was collected on 05/09/2013 at the location described as: CCR-SS-3A (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-11 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	29.2	Milligrams per Kilogram
Lead	417	Milligrams per Kilogram
Zinc	4500	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-12
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-12. This sample was collected on 05/09/2013 at the location described as: CCR-SS-4A (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-12 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	27.0	Milligrams per Kilogram
Lead	193	Milligrams per Kilogram
Zinc	5780	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-12-FD
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-12-FD. This sample was collected on 05/09/2013 at the location described as: CCR-SS-4A (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-12-FD for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	37.0	Milligrams per Kilogram
Lead	257	Milligrams per Kilogram
Zinc	7200	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-14
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-14. This sample was collected on 05/09/2013 at the location described as: CCR-SS-3B (30-36). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-14 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	1.7	Milligrams per Kilogram
Lead	61.5	Milligrams per Kilogram
Zinc	393	Milligrams per Kilogram



September 9, 2016

[REDACTED]

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Located on [REDACTED]) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

Dear [REDACTED]

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from eight test pits excavated on your property (Sample Locations 10, 11 and 12, Test Pits 10A, 10A-N, 10B, 10B-N, 10C, 11A, 11A-N, 11A-S, 12A, 12B, 12B-N, 12B-S). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in May and December 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from Test Pits 10A, 10B, 10C, 11A, and 12A and 12B at depths up to 24 inches below ground surface (bgs). Zinc exceeded the proposed cleanup levels in sample 6105-6 from Test Pit 10A, sample 6105-5 from Test Pit 10B, sample 6105-4 from Test Pit 10C, sample 6105-73 from Test Pit 11A, and sample 6105-72 from Test Pit 12B submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

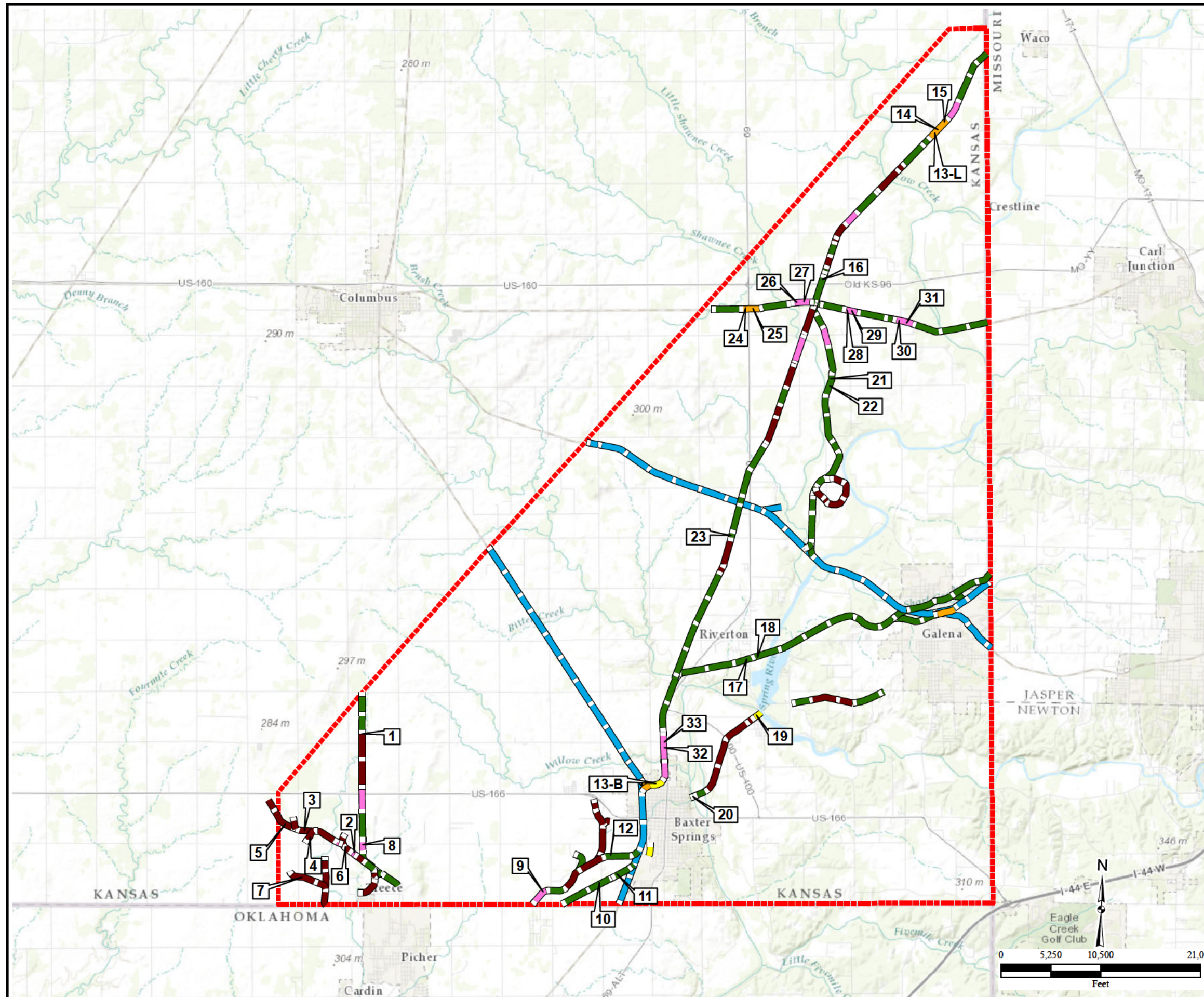
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Andrea Fletcher
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cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential

Notes:


Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
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\\Gst-srv-01\HGLGIS\Cherokee_County\MSIW\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
10A	6105-6	5/8/2013	0-6 inches	Lead	640
				Zinc	10,786
			6-12 inches	Lead	606
				Zinc	16,933
			12-18 inches	Lead	38
				Zinc	1,441
			18-24 inches	Lead	55
				Zinc	1,738
			24-30 inches	Lead	<11.0
				Zinc	62
			30-36 inches	Lead	15
				Zinc	123
10A-N		5/8/2013	0-6 inches	Lead	131
				Zinc	1,148
			6-12 inches	Lead	261
				Zinc	890
10B	6105-5	5/8/2013	0-6 inches	Lead	473
				Zinc	12,367
			6-12 inches	Lead	364
				Zinc	6,051
			12-18 inches	Lead	<10.2
				Zinc	286
			18-24 inches	Lead	22
				Zinc	663
			24-30 inches	Lead	17
				Zinc	102
			30-36 inches	Lead	21
				Zinc	88
10B-N		5/8/2013	36-42 inches	Lead	14
				Zinc	27
			42-48 inches	Lead	<10.9
				Zinc	59
10B-N		5/8/2013	0-6 inches	Lead	13
				Zinc	94
			6-12 inches	Lead	16
				Zinc	71

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
10C	6105-4	5/8/2013	0-6 inches	Lead	85
				Zinc	6,176
			6-12 inches	Lead	119
				Zinc	6,718
			12-18 inches	Lead	22
				Zinc	273
			18-24 inches	Lead	19
				Zinc	1,431
			24-30 inches	Lead	26
				Zinc	318
			30-36 inches	Lead	14
				Zinc	220
11A	6105-73	12/5/2013	0-6 inches	Lead	573
				Zinc	15,967
			6-12 inches	Lead	441
				Zinc	15,067
			12-18 inches	Lead	739
				Zinc	12,167
			18-24 inches	Lead	566
				Zinc	16,767
			24-30 inches	Lead	<9.5
				Zinc	173
			30-36 inches	Lead	<10.2
				Zinc	29
11A-N		12/5/2013	0-6 inches	Lead	37
				Zinc	244
11A-S		12/5/2013	0-6 inches	Lead	74
				Zinc	871

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
12A	6105-71	12/5/2013	0-6 inches	Lead	185
				Zinc	3,420
			6-12 inches	Lead	379
				Zinc	5,193
			12-18 inches	Lead	596
				Zinc	8,331
			18-24 inches	Lead	219
				Zinc	2,198
			24-30 inches	Lead	14
				Zinc	396
			30-36 inches	Lead	<11.6
				Zinc	170
12B	6105-72	12/5/2013	0-6 inches	Lead	478
				Zinc	11,610
			6-12 inches	Lead	204
				Zinc	11,063
			12-18 inches	Lead	200
				Zinc	7,840
			18-24 inches	Lead	166
				Zinc	13,215
			24-30 inches	Lead	12
				Zinc	23
			30-36 inches	Lead	<10.3
				Zinc	46
12B-N		12/5/2013	0-6 inches	Lead	65
				Zinc	545
12B-S		12/5/2013	0-6 inches	Lead	52
				Zinc	577

 Result is above the proposed cleanup level which is subject to change until the
 bgs below ground surface
 Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-4
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-4. This sample was collected on 05/08/2013 at the location described as: CCR-SS-10C (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-4 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	37.7	Milligrams per Kilogram
Lead	152	Milligrams per Kilogram
Zinc	8680	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-5
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-5. This sample was collected on 05/08/2013 at the location described as: CCR-SS-10B (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-5 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	41.5	Milligrams per Kilogram
Lead	338	Milligrams per Kilogram
Zinc	9860	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-6
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-6. This sample was collected on 05/08/2013 at the location described as: CCR-SO-10A (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-6 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	38.6	Milligrams per Kilogram
Lead	398	Milligrams per Kilogram
Zinc	8190	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-73
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-73. This sample was collected on 12/05/2013 at the location described as: CCR-SS-11A (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-73 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	Approximately 38.8	Milligrams per Kilogram
Lead	827	Milligrams per Kilogram
Zinc	12600	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-71
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-71. This sample was collected on 12/05/2013 at the location described as: CCR-SS-12A (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-71 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	9.7	Milligrams per Kilogram
Lead	300	Milligrams per Kilogram
Zinc	3600	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219

01/09/2014

Results of Sample Analysis

Sample: 6105-72
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-72. This sample was collected on 12/05/2013 at the location described as: CCR-SS-12B (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-72 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	45.1	Milligrams per Kilogram
Lead	457	Milligrams per Kilogram
Zinc	12000	Milligrams per Kilogram

September 9, 2016

City of Baxter Springs
PO Box 577
Baxter Springs, KS 66713

RE: Analytical results for soil samples collected from former rail line on City of Baxter Springs Property (Section 1, T 35S, R 24E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

To Whom It May Concern:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from seven test pits excavated on your property (Sample Locations 13-B and 20, Test Pits 13A, 13B, 13C, 13D, 13E, 13B-N, 13B-S, 13E-N, 13E-S, 20A, and 20B). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in May and June 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from Test Pits 13A, 13B, 13C, 13D, 13E, 13E-N and 13E-S at depths up to 48 inches below ground surface (bgs). Lead was also detected at concentrations exceeding its proposed cleanup level of 1,770 mg/kg in samples collected from Test Pits 13C and 13D at depths up to 30 inches bgs. There were exceedances of the proposed cleanup levels for zinc in samples 6105-68 from Test Pit 13C, 6105-69 from Test 13B and 6105-70 from Test Pit 13D, and for lead in sample 6105-70 submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

Sincerely,

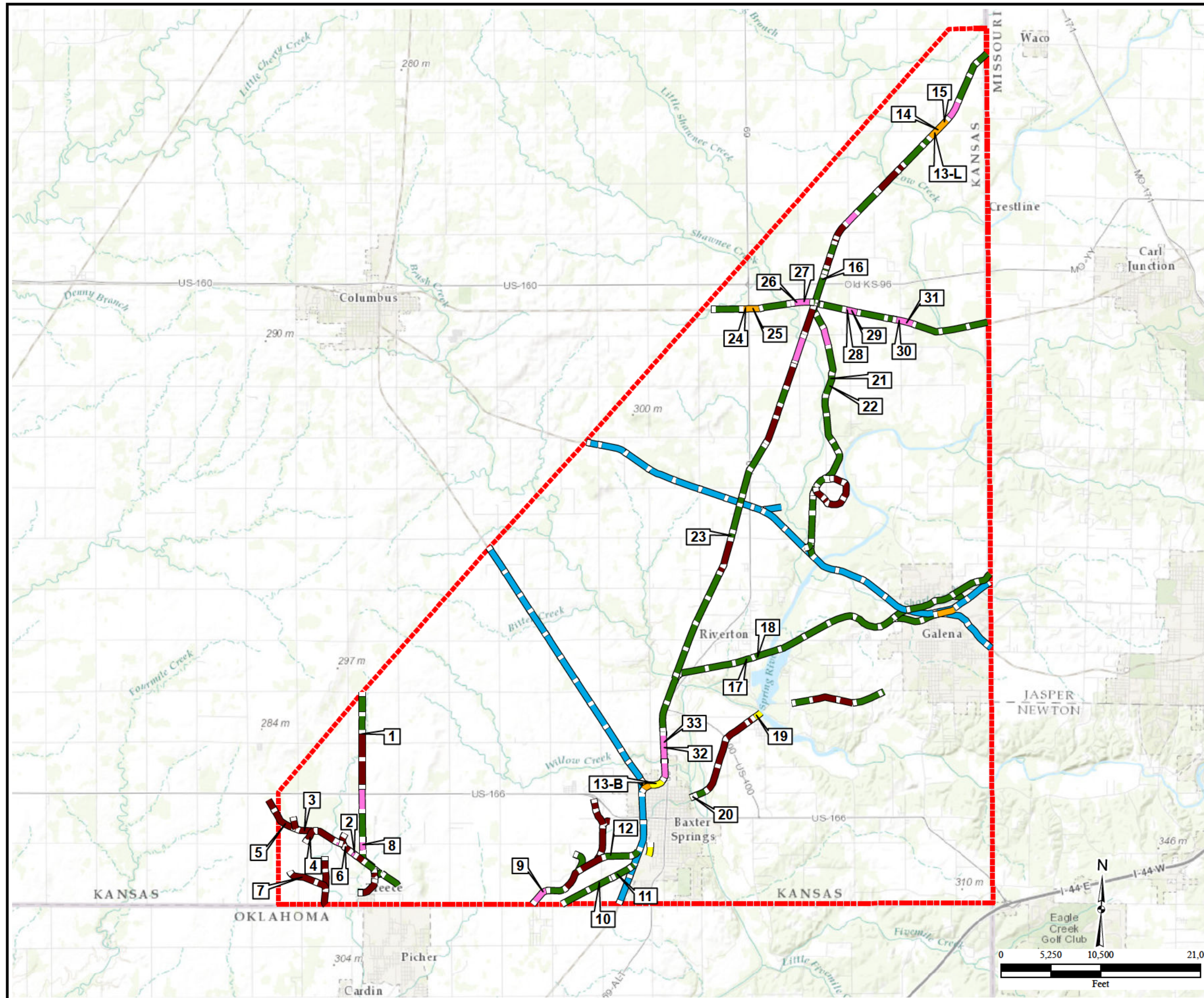


Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential

Notes:


Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSI\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
13A	6105-74	12/5/2013	0-6 inches	Lead	672
				Zinc	12,900
			6-12 inches	Lead	823
				Zinc	10,357
			12-18 inches	Lead	619
				Zinc	10,433
			18-24 inches	Lead	1,012
				Zinc	13,733
			24-30 inches	Lead	1,123
				Zinc	15,700
			30-36 inches	Lead	1,654
				Zinc	19,100
13B	6105-69	12/5/2013	0-6 inches	Lead	1,029
				Zinc	7,429
			42-48 inches	Lead	523
				Zinc	6,391
			0-6 inches	Lead	856
				Zinc	3,834
			6-12 inches	Lead	1,750
				Zinc	7,648
			12-18 inches	Lead	1,488
				Zinc	2,912
			18-24 inches	Lead	1,641
				Zinc	3,226
13C	6105-68	12/4/2013	24-30 inches	Lead	651
				Zinc	2,525
			30-36 inches	Lead	700
				Zinc	2,608
			36-42 inches	Lead	244
				Zinc	1,315
			42-48 inches	Lead	24
				Zinc	1,700
			0-6 inches	Lead	1,820
				Zinc	8,686
			6-12 inches	Lead	1,282
				Zinc	5,743
13C	6105-68	12/4/2013	12-18 inches	Lead	1,531
				Zinc	8,619
			18-24 inches	Lead	1,518
				Zinc	7,398
			24-30 inches	Lead	16,533
				Zinc	6,724
			30-36 inches	Lead	1,492
				Zinc	10,169
			36-42 inches	Lead	<9.3
				Zinc	452
			42-48 inches	Lead	96
				Zinc	2,831

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
13D	6105-70	12/5/2016	0-6 inches	Lead	183
				Zinc	10,745
			6-12 inches	Lead	2,255
				Zinc	5,275
			12-18 inches	Lead	820
				Zinc	1,505
			18-24 inches	Lead	782
				Zinc	447
			24-30 inches	Lead	59
				Zinc	428
			30-36 inches	Lead	150
				Zinc	579
			36-42 inches	Lead	42
				Zinc	249
			42-48 inches	Lead	43
				Zinc	235
13E	6105-66 6105-66 FD	12/4/2013	0-6 inches	Lead	865
				Zinc	5,860
			6-12 inches	Lead	902
				Zinc	6,183
			12-18 inches	Lead	203
				Zinc	377
			18-24 inches	Lead	426
				Zinc	531
			24-30 inches	Lead	<10
				Zinc	133
			30-36 inches	Lead	25
				Zinc	135
			36-42 inches	Lead	62
				Zinc	226
			42-48 inches	Lead	<9.9
				Zinc	197
13B-N		5/10/2013	0-6 inches	Lead	1,168
				Zinc	1,537
13B-S		5/10/2013	0-6 inches	Lead	301
				Zinc	3,469
13E-N		5/10/2013	0-6 inches	Lead	1,255
				Zinc	4,540
13E-S		5/10/2013	0-6 inches	Lead	652
				Zinc	4,153

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
20A	6105-23 6105-23-FD	6/11/2013	0-6 inches	Lead	<14.1
				Zinc	260
			6-12 inches	Lead	14
				Zinc	267
			12-18 inches	Lead	25
				Zinc	329
			18-24 inches	Lead	<13.1
				Zinc	240
			24-30 inches	Lead	<12.2
				Zinc	200
			30-36 inches	Lead	44
				Zinc	286
20B	6105-27	6/11/2013	0-6 inches	Lead	395
				Zinc	3,706
			6-12 inches	Lead	138
				Zinc	1,939
			12-18 inches	Lead	131
				Zinc	1,464
			18-24 inches	Lead	94
				Zinc	813
			24-30 inches	Lead	75
				Zinc	809
			30-36 inches	Lead	24
				Zinc	682
			36-42 inches	Lead	223
				Zinc	623
			42-48 inches	Lead	<13.4
				Zinc	781

 Result is above the proposed cleanup level which is subject to change until the Record of Decision is final.
 bgs below ground surface
 Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-66
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-66. This sample was collected on 12/04/2013 at the location described as: CCR-SS-13E (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-66 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	4.4	Milligrams per Kilogram
Lead	329	Milligrams per Kilogram
Zinc	722	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-66-FD
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-66-FD. This sample was collected on 12/04/2013 at the location described as: CCR-SS-13E (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-66-FD for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	3.1	Milligrams per Kilogram
Lead	178	Milligrams per Kilogram
Zinc	545	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-68
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-68. This sample was collected on 12/04/2013 at the location described as: CCR-SS-13C (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-68 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	59.1	Milligrams per Kilogram
Lead	1390	Milligrams per Kilogram
Zinc	11400	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-69
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-69. This sample was collected on 12/05/2013 at the location described as: CCR-SS-13B (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-69 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	45.9	Milligrams per Kilogram
Lead	1640	Milligrams per Kilogram
Zinc	8470	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-70
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-70. This sample was collected on 12/05/2013 at the location described as: CCR-SS-13D (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-70 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	41.7	Milligrams per Kilogram
Lead	3750	Milligrams per Kilogram
Zinc	4100	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-23
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-23. This sample was collected on 06/11/2013 at the location described as: CCR-SS-20A (36-42). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-23 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	15.6	Milligrams per Kilogram
Lead	240	Milligrams per Kilogram
Zinc	Approximately 1290	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-23-FD
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-23-FD. This sample was collected on 06/11/2013 at the location described as: CCR-SS-20A (36-42). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-23-FD for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	12.4	Milligrams per Kilogram
Lead	198	Milligrams per Kilogram
Zinc	1140	Milligrams per Kilogram

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-27
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-27. This sample was collected on 06/11/2013 at the location described as: CCR-SS-20B (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-27 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	15.6	Milligrams per Kilogram
Lead	58.1	Milligrams per Kilogram
Zinc	1370	Milligrams per Kilogram



September 9, 2016



RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Sections 9 and 16, T 33S, R 25E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

To Whom It May Concern:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from 15 test pits excavated on your property (Sample Locations 13L, 14, and 15; Test Pits 13A, 14A, 14A-E, 14A-W, 15A, 15B, 16A, 16A-E, and 16B). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in May 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from Test Pits 13-L, 14A, and 15B at depths up to 48 inches below ground surface (bgs). Zinc did not exceed the proposed cleanup levels in samples submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

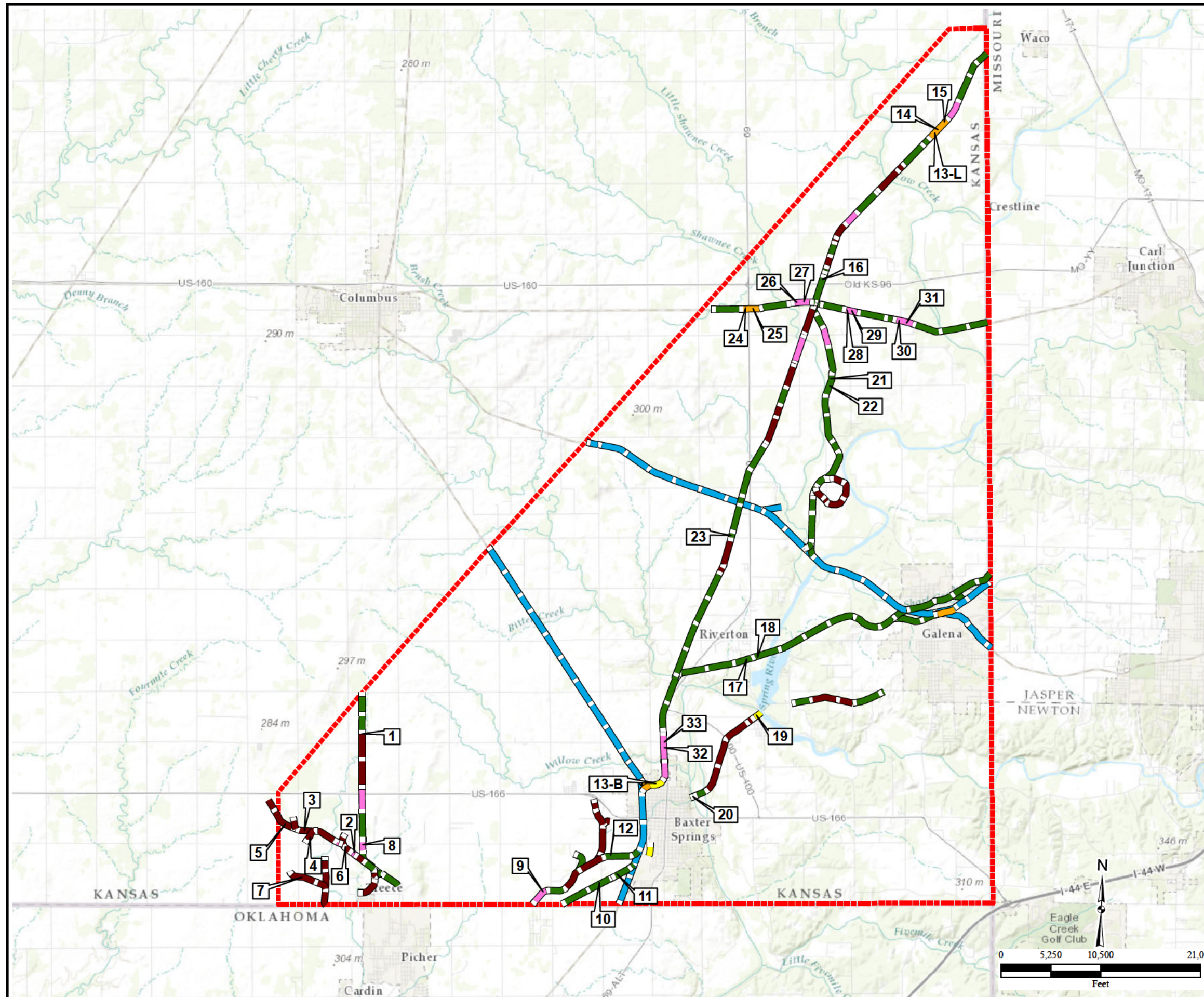
Sincerely,

Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential

Notes:


Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSIW\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
13A	6105-20	5/10/2013	0-6 inches	Lead	238
				Zinc	4,504
			6-12 inches	Lead	145
				Zinc	1,530
			12-18 inches	Lead	41
				Zinc	532
			18-24 inches	Lead	<11.2
				Zinc	163
			24-30 inches	Lead	<10
				Zinc	37
			30-36 inches	Lead	17
				Zinc	39
14A			0-6 inches	Lead	104
				Zinc	5,763
			6-12 inches	Lead	136
				Zinc	3,765
			12-18 inches	Lead	169
				Zinc	2,760
			18-24 inches	Lead	222
				Zinc	38
			24-30 inches	Lead	<9.8
				Zinc	64
			30-36 inches	Lead	15
				Zinc	75
14A-E			0-6 inches	Lead	80
				Zinc	539
			6-12 inches	Lead	80
				Zinc	355
14A-W			0-6 inches	Lead	96
				Zinc	940

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
15A	6105-19	5/10/2013	0-6 inches	Lead	328
				Zinc	1,972
			6-12 inches	Lead	244
				Zinc	1,249
			12-18 inches	Lead	95
				Zinc	828
			18-24 inches	Lead	62
				Zinc	536
			24-30 inches	Lead	10
				Zinc	122
			30-36 inches	Lead	16
				Zinc	255
15B	6105-18	5/10/2013	0-6 inches	Lead	<10.1
				Zinc	29
			6-12 inches	Lead	<8.8
				Zinc	18
			12-18 inches	Lead	579
				Zinc	4,418
			18-24 inches	Lead	443
				Zinc	2,597
			24-30 inches	Lead	222
				Zinc	295
			30-36 inches	Lead	247
				Zinc	310
			36-42 inches	Lead	27
				Zinc	61
			42-48 inches	Lead	11
				Zinc	45
				Lead	47
				Zinc	78
				Lead	14
				Zinc	45

<p align="center">Table 1 XRF Screening Results Cherokee County OU8 Railroads Site</p>					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
16A	6105-22	5/10/2013	0-6 inches	Lead	412
				Zinc	1,572
			6-12 inches	Lead	194
				Zinc	757
			12-18 inches	Lead	217
				Zinc	1,183
			18-24 inches	Lead	19
				Zinc	162
			24-30 inches	Lead	26
				Zinc	65
			30-36 inches	Lead	<11.3
				Zinc	27
16A-E		5/10/2013	0-6 inches	Lead	70
				Zinc	383
16B	6105-21	5/10/2013	0-6 inches	Lead	158
				Zinc	530
			6-12 inches	Lead	25
				Zinc	81
			12-18 inches	Lead	30
				Zinc	81
			18-24 inches	Lead	17
				Zinc	29
			24-30 inches	Lead	13
				Zinc	18
			30-36 inches	Lead	14
				Zinc	33
			36-42 inches	Lead	<16.5
				Zinc	38
			42-48 inches	Lead	<10.2
				Zinc	32

 Result is above the proposed cleanup level which is subject to change until the Record of Decision is final.

bgs below ground surface

Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219
01/09/2014

Results of Sample Analysis

Sample: 6105-18
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-18. This sample was collected on 05/10/2013 at the location described as: CCR-SS-15B (6-12). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-18 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	11.2	Milligrams per Kilogram
Lead	556	Milligrams per Kilogram
Zinc	1820	Milligrams per Kilogram

United States Environmental Protection Agency
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01/09/2014

Results of Sample Analysis

Sample: 6105-19
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-19. This sample was collected on 05/10/2013 at the location described as: CCR-SO-15A (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-19 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	16.4	Milligrams per Kilogram
Lead	461	Milligrams per Kilogram
Zinc	2330	Milligrams per Kilogram

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Lenexa, KS 66219
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Results of Sample Analysis

Sample: 6105-21
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-21. This sample was collected on 05/10/2013 at the location described as: CCR-SO-16B (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-21 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	Approximately 8.9	Milligrams per Kilogram
Lead	265	Milligrams per Kilogram
Zinc	1600	Milligrams per Kilogram

United States Environmental Protection Agency
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01/09/2014

Results of Sample Analysis

Sample: 6105-22
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-22. This sample was collected on 05/10/2013 at the location described as: CCR-SO-16A (0-6). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-22 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	16.8	Milligrams per Kilogram
Lead	528	Milligrams per Kilogram
Zinc	2530	Milligrams per Kilogram



September 9, 2016

RE: Analytical results for soil samples collected from former rail line on [REDACTED] Property (Sections 19, 20, and 29, T 34S, R 25E) in support of the Cherokee County OU8 Railroads Site Investigation in Cherokee County, Kansas.

To Whom It May Concern:

HydroGeoLogic, Inc. (HGL), on behalf of the U.S. Environmental Protection Agency (EPA), is providing the analytical results of the soil samples collected from eight test pits excavated on your property (Sample Locations 17, 18, and 19; Test Pits 17A, 17B, 17B-N, 17B-S, 17B-S2, 17C, 18A, and 19A). This information is forwarded to you in accordance with the provisions of Section 104(e)(4)(B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended. These samples were collected during field activities conducted in June 2013 in support of the Remedial Investigation/Feasibility Study conducted at the Cherokee County OU8 Railroads Site in Cherokee County, Kansas. Samples were analyzed in the field using x-ray fluorescence (XRF), a scanning instrument that provides real-time results for select metals screened in the field at each location (see Figure 1). In addition, one soil sample per test pit was submitted to the Region 7 EPA laboratory for analysis. The analytical results are included in Attachment A.

Soil results were compared to the proposed cleanup levels determined as part of the Risk Assessment conducted during the Remedial Investigation. As indicated in Table 1, zinc was detected at concentrations exceeding its proposed cleanup level of 4,000 milligrams per kilogram (mg/kg) in samples collected from Test Pits 17A, 17B, 17B-S, 17C, and 18A at depths up to 24 inches below ground surface (bgs). Zinc exceeded the proposed cleanup levels in sample 6105-29 from Test Pit 17A, sample 6105-26 from Test Pit 17B, and sample 6105-25 from Test Pit 17C submitted to the Region 7 EPA laboratory for analysis (Attachment A).

Please contact me at 913-317-8860 or Elizabeth Hagenmaier of the EPA at 913-551-7939 if you have questions or concerns regarding this data package.

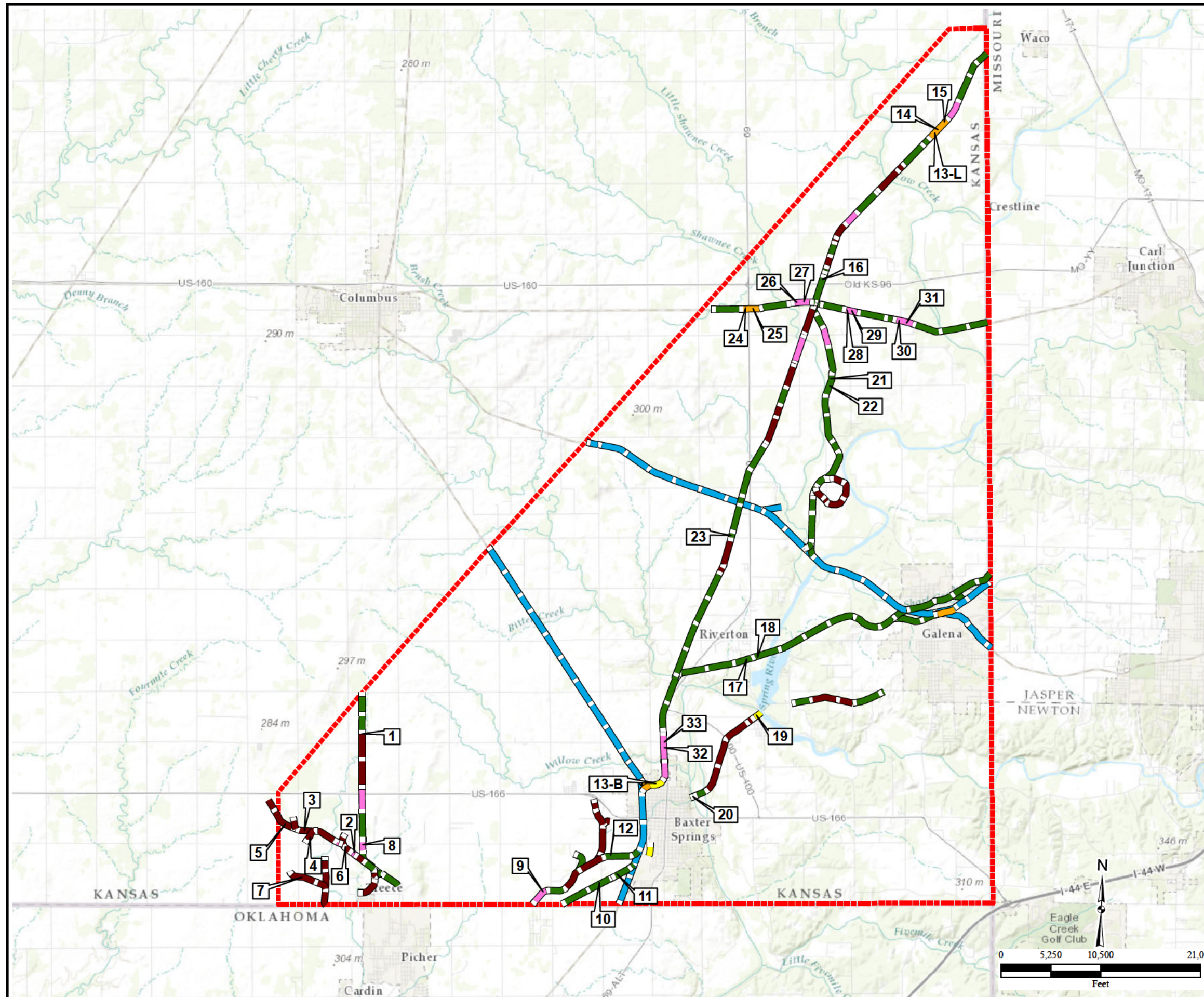
Sincerely,

Andrea Fletcher
HGL Task Order Manager

Enclosures: Figure 1: Sample Locations
Table 1: Summary of Screening Results for Location 1
Attachment A: Analytical Data Package

cc: E. Hagenmaier, EPA Region 7

Figure 3.1
Former Rail Line Classifications and
Sample Locations



Legend

10 Sample Location

Site Boundary

Rail Classification

Active Line

Confirmed Class 1, Residential

Confirmed Class 1, Rural

Suspected Class 1, Rural

Suspected Class 2, Rural

Suspected Class 2, Residential

Notes:


Class 1=Rail line is beginning to deteriorate; no evidence of ties or they are broken down, some weathering of rail bed (visible rail bed topography exists at the site)
Class 2=Rail line is deteriorated; rail bed is discontinuous or has been weathered extensively
Confirmed=Visually inspected
Rural=land is agricultural or wooded with little or no exposure potential
Residential=land is in residential areas
Suspected=Based on surrounding visually inspected locations

\\Gst-srv-01\HGLGIS\Cherokee_County\MSI\RR\3-01\RR_Class_Sample_Locs.mxd
8/31/2015 JG
Source: HGL, ArcGIS Online USA Topo Map

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
17A	6105-29	6/11/2013	0-6 inches	Lead	570
				Zinc	6,795
			6-12 inches	Lead	463
				Zinc	20,000
			12-18 inches	Lead	987
				Zinc	15,200
			18-24 inches	Lead	800
				Zinc	3,248
			24-30 inches	Lead	127
				Zinc	1,640
			30-36 inches	Lead	<12.4
				Zinc	427
17B	6105-26	6/11/2013	0-6 inches	Lead	18
				Zinc	218
			6-12 inches	Lead	<14.0
				Zinc	325
			12-18 inches	Lead	281
				Zinc	2,829
			18-24 inches	Lead	506
				Zinc	14,700
			24-30 inches	Lead	422
				Zinc	30,050
			30-36 inches	Lead	115
				Zinc	7,499
17B-N		6/11/2013	0-6 inches	Lead	56
				Zinc	329
17B-S		6/11/2013	0-6 inches	Lead	<11.1
				Zinc	198
17B-S2		6/11/2013	0-6 inches	Lead	<14.8
				Zinc	32
		6/11/2013	0-6 inches	Lead	<13.1
				Zinc	26
		6/11/2013	0-6 inches	Lead	<14.1
				Zinc	55
		6/11/2013	0-6 inches	Lead	676
				Zinc	6,267
		6/11/2013	6-12 inches	Lead	264
				Zinc	2,132
		6/11/2013	0-6 inches	Lead	89
				Zinc	718

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
17C	6105-25	6/11/2013	0-6 inches	Lead	515
				Zinc	6,781
			6-12 inches	Lead	516
				Zinc	9,644
			12-18 inches	Lead	371
				Zinc	13,900
			18-24 inches	Lead	329
				Zinc	13,867
			24-30 inches	Lead	18
				Zinc	66
			30-36 inches	Lead	15
				Zinc	158
18A	6105-24	6/11/2013	0-6 inches	Lead	<15.9
				Zinc	83
			6-12 inches	Lead	22
				Zinc	126
			12-18 inches	Lead	421
				Zinc	13,075
			18-24 inches	Lead	281
				Zinc	23,967
			24-30 inches	Lead	63
				Zinc	425
			30-36 inches	Lead	<13.5
				Zinc	63
			36-42 inches	Lead	18
				Zinc	647
			42-48 inches	Lead	<11.4
				Zinc	35
				Lead	<11.8
				Zinc	59
				Lead	<12.7
				Zinc	117

Table 1 XRF Screening Results Cherokee County OU8 Railroads Site					
Test Pit Location	Sample ID Number	Sample Date	Sample Depth (bgs)	Reporting Analytes	Results
19A	6105-28	6/11/2013	0-6 inches	Lead	1,079
				Zinc	960
			6-12 inches	Lead	246
				Zinc	1,120
			12-18 inches	Lead	204
				Zinc	1,444
			18-24 inches	Lead	860
				Zinc	994
			24-30 inches	Lead	40
				Zinc	474
			30-36 inches	Lead	413
				Zinc	886
			36-42 inches	Lead	49
				Zinc	182
			42-48 inches	Lead	25
				Zinc	104

 Result is above the proposed cleanup level which is subject to change until the
 bgs below ground surface
 Results are all reported in milligrams per kilogram

Attachment A
Laboratory Data Package

United States Environmental Protection Agency
Region 7
11201 Renner Blvd
Lenexa, KS 66219

01/09/2014

Results of Sample Analysis

Sample: 6105-24
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-24. This sample was collected on 06/11/2013 at the location described as: CCR-SS-18A (24-30). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-24 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	4.3	Milligrams per Kilogram
Lead	53.8	Milligrams per Kilogram
Zinc	946	Milligrams per Kilogram

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Results of Sample Analysis

Sample: 6105-25
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-25. This sample was collected on 06/11/2013 at the location described as: CCR-SS-17C (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-25 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	86.3	Milligrams per Kilogram
Lead	288	Milligrams per Kilogram
Zinc	19300	Milligrams per Kilogram

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01/09/2014

Results of Sample Analysis

Sample: 6105-26
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-26. This sample was collected on 06/11/2013 at the location described as: CCR-SS-17B (18-24). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-26 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	39.2	Milligrams per Kilogram
Lead	78.0	Milligrams per Kilogram
Zinc	6730	Milligrams per Kilogram

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01/09/2014

Results of Sample Analysis

Sample: 6105-28
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-28. This sample was collected on 06/11/2013 at the location described as: CCR-SS-19A (36-42). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-28 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	Less Than 1.5	Milligrams per Kilogram
Lead	74.8	Milligrams per Kilogram
Zinc	123	Milligrams per Kilogram

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01/09/2014

Results of Sample Analysis

Sample: 6105-29
Project ID: EC073708

These are the results from the analysis of solid sample number 6105-29. This sample was collected on 06/11/2013 at the location described as: CCR-SS-17A (12-18). If you have any questions about these results, contact Elizabeth Coffey at the above address or by calling 913-551-7939. Correspondence should refer to sample number 6105-29 for project: EC073708 - Cherokee County - Railroads.

Analysis/Analyte	Amount Found	Units
<u>Metals in Soil by Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES)</u>		
Cadmium	50.9	Milligrams per Kilogram
Lead	1050	Milligrams per Kilogram
Zinc	10300	Milligrams per Kilogram